

## Making Roads

# Senior Safer

Eleanor R., 76, of St. Louis, is a healthy, busy senior. She works part-time, plays cards, visits friends, goes to the beauty salon and shops for groceries – as long as it's during the day. At night, she doesn't trust her instincts or eyesight enough to drive.

**By Pam Droog**

*Illustrated by Mark Mohr*



Recently, on behalf of Eleanor and thousands of other Missouri seniors, MoDOT has taken significant steps to make driving safer, at nighttime or otherwise. Bigger, brighter signs, more visible stripes and larger signal lights are among the notable changes that benefit all drivers, but especially seniors who want to live independently as long as they possibly can.

## The Facts

Americans are living longer, more active lives and driving and traveling more, too, according to The Road Information Program, a nonprofit transportation research group.

In the last decade, according to TRIP, the number of elderly drivers in the United States has increased from 13 million to about 18 million, and is expected to reach 70 million by 2030. Americans 85 years and older are the fastest-growing segment of the population.

Unfortunately, older drivers also are involved in more fatal accidents. The number of drivers age 70 and over involved in fatal crashes nationwide increased 33 percent between 1989 and 1999, while overall fatalities declined by 9 percent (the latest figures available). Missouri ranks ninth in the number of older Americans involved in fatal crashes.

Specifically, the effects of aging – like reduced visual acuity, slower reaction times and reduced neck and upper-body flexibility – can affect a person’s driving ability. These challenges may lead to difficulty merging, interpreting traffic signs and signals, and negotiating intersections. In fact, for drivers 80 and older, more than half of all fatal accidents occur at intersections, compared to one in four for drivers under 50.

## Signing

“We’ve improved the quality of our signing, which especially helps seniors, but the effects can be seen by everyone,” says MoDOT State Traffic Engineer Steve McDonald.

MoDOT follows the maximum recommendations of the Federal Highway Administration, he explains. “We could get by with less but the decreasing price of materials has allowed us to go to higher performing signs without paying a whole lot more.”

All MoDOT signs now are made of retro-reflective sheeting, says Traffic Signing and Striping Specialist Jim Brocksmith. “We kicked it up a notch from engineering grade,” he says. “The signs are the same color they always have been, but they’re brighter and more reflective under headlights.” An added bonus of the new sheeting is a longer guarantee – 10 years.

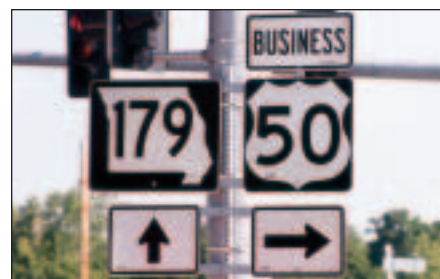
# Traffic Signing & Safety Features

A quick guide to signage.

**MoDOT continually works on ways to make driving safer for everyone, but seniors especially benefit from improvements like more visible striping, larger signal lights and bigger, brighter signs. Here are a few examples.**



**Stop signs are bigger, easier to see from a distance.**



**Route signs are wider to accommodate three digits.**



**Guide signs are wider, giving drivers more time to make decisions.**



**Route markers are wider and letters are taller.**



**Rumble strips help keep drivers on the roadway.**

MoDOT also uses the largest letters and numbers federal guidelines allow. Taller letters and numbers are easier to see from farther away, giving drivers more time to make decisions.

Letters on guide signs, those big green signs over highway lanes, grew from 13 inches to 16 inches high. On route markers, signs that indicate a roadway's numeric or alphabetical designation, MoDOT now uses 12-inch instead of 10-inch letters, based on a legibility standard of one inch of height per 40 feet of distance.

Besides making letters higher, MoDOT also makes them wider.

"We used to have just one standard, and we'd squeeze two letters in to fit the space of one," Brocksmith says. "With wider letters, the signs are more legible and easier to see."

Signs themselves are bigger, due to those taller, wider letters. For example, in the past, the smallest stop sign was 30 inches. Today it's 36 inches. Speed limit, do not enter, no parking and other signs also have grown for improved legibility and safety.

"A sign should do its job in advance," says MoDOT Sign Production Supervisor Larry Thompson. "We want signs you can recognize and see day and night."

## Striping

What's the secret behind those bright, reflective stripes on so many Missouri roads? Glass beads – millions and millions of them. These tiny beads are spread on wet stripe paint to help reflect headlights at night and remain more visible in all kinds of weather conditions, even under water. New materials, like thermoplastic and epoxy, also are used for striping. They stand up to winter weather and can last up to four years, whereas a paint stripe lasts two years at the most.

Reflective markers on all interstates also provide more visibility and route guidance at dusk or night, or when it's foggy, raining

or otherwise nasty weather. In six years, MoDOT has installed "tens of thousands of them," Brocksmith says.

## Signals

MoDOT uses a 12-inch diameter light in its stoplights. That exceeds the 8-inch minimum recommended size.

"We also use green and yellow arrow lights, but you'll never see a red arrow light in Missouri," says Signal and Lighting Engineer Julie Stotlemeyer. "We only use red circular indications, which are easier for older drivers to see."

Stotlemeyer adds that separate left-turn lanes always have their own signal heads, instead of sharing one with the lane next to it. "That way, it's much easier to recognize the signals for that lane," she says.

## Good Vibes

Though most roadway information is conveyed visually, MoDOT also employs an effective audio and vibratory technique – rumble strips. These specially designed

series of pavement grooves, typically found on a roadway shoulder, make a distinctive sound and a definite vibration when a vehicle passes over them.

"If a driver is drowsy or distracted and drifts out of the lane, these strips will alert him and bring him back on the road," Brocksmith says. "They also provide guidance in heavy rain or fog."

MoDOT always is looking at new ways to make driving safer for seniors and all drivers on Missouri roads. The department continually scopes out and tests innovations in highway design and equipment.

Still, at any age, safe driving requires concentration, familiarity with the rules and a cool head. ■

*Pam Droog is the editor of Pathways and an outreach specialist at MoDOT General Headquarters.*



PHOTOS OPPOSITE PAGE, LEFT BY MIKE WRIGHT; RIGHT BY TONYA WELLS. BACK COVER BY MIKE WRIGHT.